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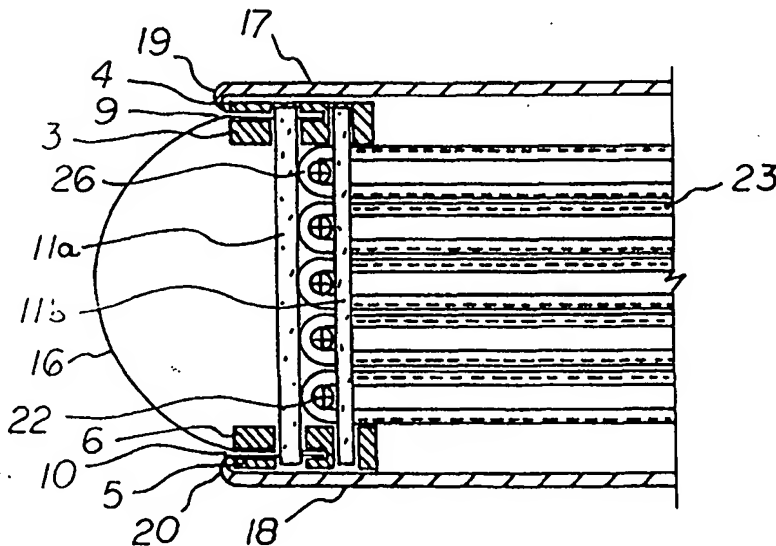
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification<sup>7</sup> : B42D 1/06, 1/08, B42F 5/00</p>	<p>A1</p>	<p>(11) International Publication Number: <b>WO 00/43215</b> (43) International Publication Date: 27 July 2000 (27.07.00)</p>
<p>(21) International Application Number: PCT/IB00/00026 (22) International Filing Date: 10 January 2000 (10.01.00) (30) Priority Data: 09/234,222 20 January 1999 (20.01.99) US (71)(72) Applicant and Inventor: TAN, Whang, Kwee [MY/SG]; 17 A. Ah Soo Garden, Singapore 539976 (SG). (74) Agent: COLITZ, Michael, J., Jr.; Law Office of Michael J. Colitz, Jr., 217 Harbor View Lane, Largo, FL 33770 (US).</p>		<p>(81) Designated States: AU, CA, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).  Published With international search report.</p>

(54) Title: PHOTO ALBUM WITH REMOVABLE PAGES

(57) Abstract

A photo album assembled with the minimum use of machinery. Making use of a special designed multipurpose plastic spine or holder (1), a stack of paper (23) or a stack of plastic pockets, a plurality of posts (22) and two pieces of special designed cover panels (17, 18). By using the multipurpose plastic holder and special designed cover panels, the photo album may appear in different structural looks.



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## 1 PHOTO ALBUM WITH REMOVABLE PAGES

## 2 BACKGROUND OF THE INVENTION

## 3 Field of the Invention

4 The present invention relates to a book system and, more  
5 particularly, pertains to maximizing the convenience and  
6 aesthetic appearance of photograph albums and like books  
7 while minimizing costs.

## 8 Description of the Prior Art

9 Photo albums are commonly known to have a few binding  
10 methods which give different structural looks to the photo  
11 album. The most commonly used binding methods are: 1)  
12 binding with metal rings; 2) binding with spiral rings; 3)  
13 binding with nuts and screws; 4) binding with adhesive  
14 material; and 5) book binding. Most of these binding methods  
15 require expensive metal components to bind the covers and  
16 pages together such as metal rings, copper nuts and screws.  
17 These components add significant cost to production and  
18 inventory. Secondly, in order to apply these methods to  
19 produce photo albums, manufacturers have to invest more  
20 capital to purchase machinery as these binding methods  
21 require machines such as coiling machines, heat sealing  
22 machines, perfect binding machines, sewing machines, and the  
23 like.

24 All of these methods create three similar problems to  
25 the manufacturers: 1) high cost of production; 2) low  
26 productivity; and 3) high capital investment for machinery.  
27 In order to have profit in the market, manufacturers have to  
28 think of ways to reduce their overheads either by using

1 cheaper quality raw materials or by cutting wages on workers.  
2 Cutting wages on workers produce low morale and create poor  
3 incentives to produce any good quality products.

4       One other hindrance exists besides the traditional  
5 binding methods hindering the development of the  
6 manufacturers in the photo album industry. This hindrance is  
7 the process of making the cover panels. Traditionally, cover  
8 panels are produced by wrapping printed paper to paperboard  
9 with adhesive material. This way of making the cover panel  
10 will incur massive work load which will increase production  
11 cost and high capital investment in machinery. But the most  
12 significant hindrance in the development for any innovative  
13 photo album is not just the cost but the designing structure  
14 of the photo album being produced.

15       To most of the general public, a photo album is common  
16 and yet important. During the life of most of the consumers,  
17 there are hundreds of events of times they will take  
18 pictures, such as on weddings days, new birth of a child,  
19 birthdays, graduations and so forth. Every single photograph  
20 taken must be meaningful and precious to them. Therefore, it  
21 is very often and common for them to buy photo albums to  
22 store their memories which they cherish. But an album that  
23 has high quality and yet is inexpensive to purchase is not  
24 commonly found in the market for their satisfaction.

25       Thus, there exists a need in the market for a more  
26 versatile photo album that features high quality, elegance,  
27 economy and suitability for all occasions. In this regard,  
28 consumers need a novel album to help them cherish their

1 photographs. The manufacturing form cover making to the  
2 binding of the album, a way that will benefit the  
3 manufacturers and the consumers.

#### 4 SUMMARY OF THE INVENTION

5       In summary, the present invention essentially comprises  
6 a book comprising a spine formed of a plurality of walls  
7 including a front wall and a rear wall, each with an axial  
8 recess therewithin, the spine also having a plurality of  
9 panels including a top panel and a bottom panel with the top  
10 panel and bottom panel being in parallel relationship with  
11 each other adjacent to the top of the walls and adjacent to  
12 the bottom of the walls, the walls and panels being in a  
13 rectilinear configuration with an open planar face from which  
14 pages may extend and a closed face opposite therefrom, and  
15 with the walls being formed with circular apertures for the  
16 receipt of pins therethrough; a plurality of pins passing  
17 through at least some of the side walls to retain the pages  
18 in position; and a plurality of pages positioned within the  
19 spine and extending outwardly in a direction away from the  
20 closed face for the removable receipt of photographs and like  
21 image-bearing documents for maximized convenience and  
22 aesthetic appearance with minimized cost.

23       The principle objective of the invention, therefore, is  
24 to provide a new and improved album that is totally different  
25 from the traditional album, one that is simple and  
26 inexpensive to manufacture, one that has supreme quality yet  
27 reasonable price to the consumers, and one that may be  
28 versatile in accommodating photographs of all occasions.

1        In general, the invention of the photo album is  
2 comprised of: 1) a specially designed multipurpose plastic  
3 spine; 2) a plurality of posts; 3) a stack of plastic pockets  
4 filled with printed paper or blank paper; 4) two pieces of  
5 specially designed cover panels; and 5) design materials for  
6 cover.

7        The binder of the album is an important part to a photo  
8 album as it functions very much like the spine of the human  
9 being. It is the main component holding the member parts of  
10 the photo album together. Traditional photo albums are  
11 comprised of two cover panels, album pages as a means of  
12 storage of photographs, and a means of connection such as  
13 metal rings, nuts and screws, adhesive material, and/or  
14 spiral rings to hold the parts together. The present  
15 invention is a new concept relating to the means of  
16 connecting the panels and the album pages together. Instead  
17 of utilizing the above mentioned traditional connection  
18 means, the present invention uses a plastic spine as a means  
19 of connection. This new means of connection will give the  
20 photo album industry a new method of production by providing  
21 different structural looks to the photo album and, most  
22 importantly, an improved new product to the consumers.

23        To produce photo album pages for the storage of  
24 photographs, the present invention uses a stack of  
25 transparent plastic pockets and a plurality of posts. The  
26 transparent pockets are first filled with printed papers.  
27 They are then aligned. The stack of plastic pockets are  
28 folded symmetrically face to face and hung on the posts.

1 Next, the posts are pushed into the slots located in both  
2 ends of the specially designed holder that serves as the  
3 spine of the photo album and then are locked tight. Photo  
4 albums produced by using this method will be similar in  
5 appearance to those produced by using the ring binding,  
6 spiral binding and the heat sealing binding.

7 Another type of album page that can be utilized with the  
8 plastic spine is a transparent plastic sleeve which has the  
9 left and right sides open thus allowing photographs to insert  
10 from the side farthest from the spine. The advantages for  
11 photographs inserting from the side farthest from the spine  
12 will help manufacturers save a lot of material. This  
13 orientation also provides more convenience for consumers when  
14 inserting photographs as opposed to most of the photo albums  
15 found in the market which are designed for inserting  
16 photographs from the side nearest to the spine.

17 The cover panels are made of a plastic molding skeleton.  
18 The skeleton basically consists of two frames connected by  
19 supporting bridges. The outer frame is shorter than the  
20 inner frame which, when adhered with cover materials such as  
21 printed paperboards, produces a sloping effect on the cover.  
22 The edges of the outer frame are very special; as there are  
23 grooves created. The purpose of the groove is to give the  
24 edges a very unique finishing.

25 By using the present methods to produce cover panels,  
26 such as using printed paper wrapping onto paperboard, much  
27 work is involved and material is wasted. But the most  
28 important disadvantage as mentioned previously is that

1 designers are limited only to the changing of artwork designs  
2 with printed paper and cannot go beyond this concept. In the  
3 present invention, the designers are provided an opportunity  
4 to go beyond the traditional way. Now there is a wild and  
5 wide sky for them to realize their creation. Designers can  
6 now employ different materials such as fabric, embossed  
7 cardstock, metal plates and even actual ornamental materials  
8 and three-dimensional designs to create the cover. One of  
9 the advantages of this multipurpose specially designed cover  
10 panel is consumers are given an option to put their own  
11 favorite design or photograph in the front cover. This is  
12 accomplished by simply compressing the sponged area in the  
13 cover panel and placing their desired artwork or material  
14 over the original design.

15       Once the album pages are installed into the multipurpose  
16 spine, the two cover panel hinges and the spine cover are  
17 next simply installed to the gaps provided in the  
18 multipurpose spine, then retained and locked tightly in the  
19 spine by the use of the posts. In this manner, the assembly  
20 of the photo album is completed.

21       In view of the foregoing, the invention may be  
22 summarized as a book system with pages comprising an album  
23 for the removable receipt of photographs and like image-  
24 bearing documents. The book system includes a spine formed  
25 of a plurality of walls including a front wall and a rear  
26 wall. Each front and rear wall has an axial recess  
27 therewithin. The spine also has a plurality of panels  
28 including a top panel and a bottom panel with the top panel

1 and bottom panel being in parallel relationship with each  
2 other adjacent to the top of the walls and adjacent to the  
3 bottom of the walls. The walls and panels are in a  
4 rectilinear configuration with an open planar face from which  
5 pages may extend and a closed face opposite therefrom. The  
6 walls are formed with circular apertures for the receipt of  
7 pins therethrough. A plurality of pins pass through at least  
8 some of the side walls to retain the pages in position. A  
9 plurality of pages are positioned within the spine and extend  
10 outwardly in a direction away from the closed face.

11

12       These together with other objects of the invention,  
13 along with the various features of novelty which characterize  
14 the invention, are pointed out with particularity in the  
15 claims annexed to and forming a part of this disclosure. For  
16 a better understanding of the invention, its operating  
17 advantages and the specific objects attained by its uses,  
18 reference should be had to the accompanying drawings and  
19 descriptive matter in which there is illustrated preferred  
20 embodiments of the invention.

#### 21 BRIEF DESCRIPTION OF THE DRAWINGS

22       The invention will be better understood and objects  
23 other than those set forth above will become apparent when  
24 consideration is given to the following detailed description  
25 thereof. Such description makes reference to the annexed  
26 drawings wherein:

1        Figure 1 is a perspective illustration of the preferred  
2 embodiment of the new and improved book system constructed in  
3 accordance with the principles of the present invention.

4        Figure 2 is a perspective view of the plastic spine.

5        Figure 3 is a cross-sectional view of the completed book  
6 system from C-C in Figure 1.

7        Figure 4A is a detailed view of a single pocket album  
8 page for post hanging.

9        Figure 4B is a perspective view of the post for hanging  
10 album pages.

11       Figure 5 is a perspective view of album pages hanging  
12 onto a post.

13       Figure 6 is a detailed view of an album page made from a  
14 transparent plastic sleeve with heat seal spots to bind to  
15 the spine with a plate.

16       Figure 7 is a detailed view of the album held by a  
17 plate.

18       Figure 8 is a detailed view of the way the album will  
19 look when filled with pictures.

20       Figure 9 is a detailed view of the skeleton of the  
21 plastic molding of the cover panel.

22       Figure 9A is a cross-sectional view of the front cover  
23 from A to A of Figure 9.

24       Figure 9B is a cross-sectional view of the front cover  
25 demonstrating the option of placing a new design over the  
26 original design.

27       Figure 9C is a cross-sectional view of the front cover  
28 from B to B of Figure 9.

1        Figure 10 is a detailed view of the front cover.

2        Figure 11 is a detailed view of the packaging.

3        Figure 12 is a detailed view of one sheet adapted to be  
4 folded in half at a center line over a post with circular  
5 apertures in the paper whereby the plastic may be heat sealed  
6 to form four pockets for the receipt of photographs and with  
7 memo paper extending exteriorly for writing memos.

8        Figure 13 is a modified spine constructed in accordance  
9 with an alternate embodiment of the invention with recesses  
10 for the front and back cover and arcuate sheet in lateral  
11 recesses and with arcuate fingers extending across the back  
12 for the receipt of the spine.

13       Figure 14 is a cross-sectional view taken centrally  
14 through the spine of Figure 13 and illustrating the front  
15 cover, the back cover, the spine and rods in the recesses.

16       Figure 15 is a perspective view of the book of Figures  
17 13 and 14 immediately prior to completion.

18       Figure 16 is a perspective view of the completed book  
19 shown in Figure 15.

20       Figure 17 is an end view of the book shown in Figure 16.

21       Figure 18 is a perspective view of an alternate  
22 embodiment of the invention.

23       Figure 19 is a perspective view of another alternate  
24 embodiment of the invention.

25       The same reference numerals refer to the same parts  
26 throughout the various Figures.

27       The accompanying drawings which are incorporated into  
28 and constitute a part of the description of the invention

1 illustrate embodiments of the invention and serve to explain  
2 the principles of the invention. It is to be expressly  
3 understood, however, that the drawings are for the purpose of  
4 illustration and description only, and are not intended as a  
5 definition of the limits to the concept of the invention.

#### 6 DESCRIPTION OF THE PREFERRED EMBODIMENT

7       With reference now to the drawings, and in particular to  
8 Figures 1 through 11 thereof, the preferred embodiment of the  
9 new and improved book system embodying the principles and  
10 concepts of the present invention will be described.

11       The present invention, the new and improved book system  
12 with pages 23, is a system comprised of a plurality of  
13 components. Such components, in their broadest context,  
14 include a spine including four walls, two panels and an  
15 arcuate face, cylindrical posts, spine pins, an outboard  
16 spine pin, a plurality of pages, front and back covers, and a  
17 flexible sheet. Each of the individual components is  
18 specifically configured and correlated one with respect to  
19 the other so as to attain the desired objectives.

20       The present invention is essentially a book or album  
21 system with pages 23 for the removable receipt of photographs  
22 and like image-bearing documents. The system as set forth  
23 hereinbelow is designed for maximized convenience and  
24 aesthetic appearance with minimized manufacturing cost, thus  
25 lowering the purchasing cost to the consumer.

26       The first component of the system is a spine 1. The  
27 spine includes four walls, an interior front wall 3 and an  
28 exterior front wall 4 and an interior rear wall 6 and an

1 exterior rear wall 5. All of the walls are planar in  
2 essentially parallel relationship with each other. The  
3 interior and exterior front walls are closely spaced and the  
4 interior and exterior rear walls are closely spaced. An  
5 enlarged opening is formed therebetween for the receipt of  
6 pages 23. The spine includes two panels, a top panel 7 and a  
7 bottom panel 8. The top panel and bottom panel are in  
8 parallel relationship with each other and coupled at the top  
9 of the walls and at the bottom of the walls for the receipt  
10 of pages 23 therebetween. The four walls and two panels are  
11 in a rectilinear configuration with an open planar face from  
12 which pages 23 may extend and a closed arcuate face opposite  
13 therefrom. The arcuate face includes three sets of curved  
14 fingers 14,15 on each interior wall to define a curvature  
15 opposite from the open planar face. The interior faces of  
16 the panels are formed with a rectilinear section with  
17 indentations 13 opening toward the arcuate face for the  
18 receipt of ends of posts 22 therewithin. The walls are  
19 formed with circular inboard apertures 12 and outboard  
20 apertures 11a, 11b for the receipt of inboard spine pins 21a  
21 and at least one outboard spine pin 21b therethrough.

22       Next provided as a major component of the system are a  
23 plurality of cylindrical posts 22. The cylindrical posts  
24 have opposite ends adapted to be received in the indentations  
25 13 of the rectilinear sections for the receipt of pages 23  
26 therearound.

1       The third major component of the system is a pair of  
2 inboard spine pins 21a. The spine pins pass through the side  
3 walls to retain the posts in position within the recesses.

4       The present invention contains at least one outboard  
5 spine pin 21b. This spine pin passes through the side walls  
6 and through apertures 32 in the pages 23.

7       Further provided as a major component of the system are  
8 a plurality of pages 23 of an extended length. The pages are  
9 formed with a central fold line adapted to be positioned over  
10 the posts and to extend outwardly in a direction away from  
11 the arcuate face. The pages have apertures 32 for the  
12 receipt of the outboard spine pins 21b.

13       Next provided are a front cover 17 and a back cover 18.  
14 The front and back covers are formed each in a generally  
15 rectangular configuration with an inner edge adapted to be  
16 received between an interior wall and an exterior wall at the  
17 open face.

18       Lastly provided as a component of the system is a  
19 flexible sheet 16. The sheet is in a semi-cylindrical  
20 configuration having free parallel edges positioned between  
21 the interior and exterior walls at the closed face and  
22 overlying the curved fingers. The sheet functions as a cover  
23 for the spine.

#### 24 FUNCTIONS OF THE SPINE

25       Referring now to the figures in general, Figure 1 is the  
26 outlook of the assembled photo album. Figure 2 shows a  
27 specially designed plastic holder, which will be described as  
28 the spine 1 throughout the following text. With the use of

1 the spine 1, manufacturers are able to produce different  
2 structures of photo albums. Manufacturers can either produce  
3 photo albums with transparent plastic pockets filled with  
4 printed paper and hung onto posts and locked to the spine, or  
5 transparent plastic pockets filled with printed paper and  
6 locked to the spine 1 with the use of a specially designed  
7 plate 2.

8       According to Figure 2, the spine 1 is a plastic  
9 injection molding in a rectangular shape. There are four  
10 panels of plastic paired up to make up two plastic walls 3,4  
11 and 5,6 facing opposite each other pair. The main function  
12 of the plastic walls 3,4 and 5,6 is to hold the spine 1  
13 together and to hold the other members of the photo album  
14 together. There are three types of holes or apertures, 11a,  
15 11b, and 12, punched in the plastic walls 3,4 and 5,6. The  
16 holes or apertures 11a, 11b are for the posts 21a to lock the  
17 album pages from outside. The holes or apertures 12 are  
18 provided for the posts 21b to lock the album pages from the  
19 inside and will be penetrating the album pages as well so  
20 that the album pages are basically unmovable and stay within  
21 the spine 1 as shown in Figure 3. If this is not  
22 accomplished, there is a possibility that the posts 22 will  
23 get curved or bent by the force created by flipping the album  
24 pages filled with photographs. The holes or apertures 11a,  
25 11b, and 12 punched in the plastic walls 5,6 are penetrated  
26 completely. As for the holes or apertures 11a, 11b, 12  
27 punched in the plastic wall 3,4, they penetrate the inner  
28 panel 3 completely, but only half of the outer panel 4. The

1 major use of these holes or apertures 11a, 11b, and 12 is to  
2 allow the posts 21a, 21b as shown in Figure 3 to lock the  
3 album pages 23 hanging onto the posts 22 to the spine 1. The  
4 post 21b inserting into the aperture 12 is only applicable to  
5 the album pages hanging onto the posts 22 and is not used for  
6 any other types of album pages bound to the spine 1 with at  
7 least two posts 21a vertically inserted. This type of album  
8 pages are first installed to a plate 2 with two tubes 41  
9 standing in the front surface as shown in Figure 7 then  
10 locked to the spine 1 by inserting the posts 21a into the  
11 hollow tubes 41 provided in the plastic plate 2.

12       On the two opposite ends of the spine 1, there are two  
13 pieces of curved plastic panel 7,8 serving to hold the  
14 plastic panel walls 3,4 and 5,6 together to form the spine 1.  
15 Another use of these two pieces of curved plastic panel 7,8  
16 is to act as a stopper to retain the album pages within the  
17 spine 1 as shown in Figure 8. There are two gaps or apertures  
18 9, 10 created inbetween the two pairs of plastic walls 3,4  
19 and 5,6. The main use of these two apertures 9, 10 is to  
20 allow the front cover hinge 19, the back cover hinge 20, and  
21 the spine cover sheet 16 to insert inside with the posts 21a  
22 going through the apertures in the hinges 19, 20 and spine  
23 cover sheet 16. The cover hinges 19, 20 and the spine cover  
24 sheet 16 are retained to the spine 1 by the posts 21a, since  
25 the apertures 11a, 11b in one of the plastic panel 4 is only  
26 penetrated halfway. The posts 21a can lock into the spine 1  
27 firmer. The diameter of the posts 21a, 21b should be  
28 slightly less than the diameter of the holes 11a, 11b, 12 in

1 the spine 1. The length of the posts 21a, 21b should be less  
2 than the width of the  
3 spine 1.

4       There are a plurality of indentations 13 in each end of  
5 the spine 1. The indentations 13 are for the use of placing  
6 the album pages 23 hanging onto the posts 22. The number of  
7 indentations 13 in the spine 1 will be determined by how many  
8 photographs the photo album will accommodate. There are some  
9 supporting bridges 14, 15 in the spine 1. The bridges 14, 15  
10 are not connected as shown in the illustration because the  
11 album pages 23 hanging on posts 22 are to be placed to the  
12 indentations 13 from the front through the openings of the  
13 bridges 14, 15, as placing the album pages 23 from the back  
14 of the spine 1 is not possible. The main function of the  
15 connecting bridges 14, 15 is to give the spine cover sheet 16  
16 support and help keep the proper shape.

17       It is important to mention that the drawings and the  
18 descriptions of the spine above merely serve as an example of  
19 the invention to the concept of using a spine as a new means  
20 of binding the member

21 parts of a photo album together. Therefore, it is not  
22 limited to the material and shape mentioned above.

#### 23 PHOTO ALBUM PAGES

24       There will be three types of album pages introduced.  
25 These three types of album pages are designed to accommodate  
26 to the spine 1. Basically two types of the album pages are  
27 hung onto the posts and one type of album page is inserted  
28 into a specially designed plastic plate 2 and locked to the

1 spine 1 with at least two posts 21 that function like a ring  
2 binder.

3 1) TRANSFORMING A THREE-SIDED SEALED DUAL LAYER

4 PLASTIC INTO TWO SHEETS OF ALBUM PAGE

5 Figure 4A shows a single pocket slot-in photo album page.  
6 Two pieces of identical size printed paper 25 are inserted  
7 into a transparent plastic pocket 24. The length from top to  
8 bottom of the transparent plastic pocket 24 should be equal  
9 to the length of the printed paper 25 from top to bottom, the  
10 combined width measured left to right of the two printed  
11 paper 25 should be less than the width of the transparent  
12 plastic pocket 24 measured from left to right and as a result  
13 there will be a gap 26 created inbetween the two printed  
14 papers 25. The gap 26 has two main functions: one of the  
15 functions is acting as a divider when the transparent plastic  
16 pocket 24 is folded in half symmetrically creating two album  
17 pages 23; and the second function is to allow the album pages  
18 23 to hang onto the post 22. There will be two holes 32  
19 drilled in the center of the plastic pocket 24 opposite each  
20 other using the gap 26 as a divider which are used for the  
21 insertion of a post 22 to lock the album pages firmly to the  
22 spine 1. The holes 32 must be in accordance with the hole 12  
23 in the spine 1. When the transparent plastic pocket filled  
24 with printed papers is folded symmetrically into two halves,  
25 two sheets of album pages or four pages of album pages 23  
26 with four pockets are created. The photographs are inserted  
27 into the album pages 23 from the top. A plurality of album

1 pages 23 may hang to one post 22 depending on how many  
2 photographs the photo album is designed to accommodate. The  
3 last step is to install the posts 22 with album pages 23 to  
4 the indentations 13 in the spine 1 and lock tight with at  
5 least two posts 21a in the outside and one post 21b in the  
6 inside as shown in Figure 3.

7

8 2) HEAT-SEALING TRANSPARENT PLASTIC TO MAKE PHOTO ALBUM  
9 PAGES AS A MEANS OF STORAGE

10 Referring now to Figure 8, one piece of printed paper 37  
11 is inserted into a transparent plastic sleeve 36 with the  
12 left and right being open, the top and bottom sealed. The  
13 height of the printed paper 37 should be equal or less than  
14 the height of the transparent plastic sleeve 36 measuring  
15 from top to bottom. Two strips of thicker paper 34, 39 are  
16 adhered in the two extreme left and right sides of the  
17 printed paper 37, the left will be the page hinge 39 and the  
18 right will be the memo writing strip 34. The combined width  
19 of the transparent plastic sleeve 36, the memo writing strip  
20 34 and the page hinge 39 should be less than the width of the  
21 printed paper 37 measuring left to right. Figure 8 is an  
22 example of a double pocket page, and therefore one row of at  
23 least two round holes 40 are drilled and acts as a boundary  
24 to divide the printed paper 37 into two equal halves. When  
25 the album page is designed to accommodate three photos, then  
26 there will be two rows of round holes to divide the album  
27 page into three equal parts. There will be two holes 38  
28 punched in the page hinge 39, the holes 38 should be in

1 accordance to the holes 11a, 11b in the spine 1 and the  
2 hollow tubes 41 in the plate 2 as shown in Figure 7. When  
3 assembling the album pages to the spine 1, the album pages  
4 are inserted into the plastic plate 2 first as illustrated in  
5 Figure 7, then the plastic plate 2 will lock to the spine 1  
6 by inserting posts 21a through the hollow tubes 41.

7       Another function of the memo writing strip 34 is to act  
8 as a stopper that prevents the photographs from falling out  
9 since the photographs are inserted from the side farthest  
10 from the spine or in the side where the memo writing strip 34  
11 is. The advantage of inserting from this side is making  
12 insertion of the photographs easy and smooth in comparison to  
13 the existing products on the market. In most of the photo  
14 albums on the market photos have to be inserted from the side  
15 nearest to the spine which is very difficult because the  
16 album pages near the spine will be bulging up and making the  
17 insertion difficult. The only way to make insertion easy  
18 from the side closest to the spine is to use a wider space  
19 which means more raw material and in turn higher material  
20 cost.

21

22       The major reason why this invention is using circular  
23 apertures instead of rectangular holes used in the market is  
24 because circular apertures could be drilled, which means a  
25 big pile of paper can be drilled at one time. As for the  
26 rectangular holes seen in the market, these would have to use  
27 a metal die to cut. Die-cutting will only die cut a few

1 pages at one time which is a very expensive part of the  
2 production process.

3       One of the special features will be introduced at the  
4 back of the cover panels, either in the front panel or in the  
5 back cover panel, or even on both cover panels. A piece of  
6 printed paper 66 with specific contents will be adhered to  
7 the back of the cover panel as shown in Figure 8. A  
8 plurality of photo covers will be supplied with each photo  
9 album. The contents such as the name of the owner, special  
10 occasions, address and so forth will be included. The photo  
11 covers are used to retain the owner's selected photograph.  
12 In one of the backs of the cover panel, a pouch for the  
13 storage of negatives will be provided. The first page of the  
14 photo album is a full color printing illustrating the effect  
15 of the photo album page when filled with photographs. This  
16 page is used as a decoration to the photo album and as a  
17 guideline as illustrated in Figure 8.

#### 18 COVER PANELS/FRONT COVER PANEL

19       In this invention, there are two types of cover panels  
20 to be introduced. Both types can be used as the front cover  
21 panel and/or the back cover panel. Figure 9 is an  
22 illustration of a plastic injection molding which is the  
23 skeleton of the front cover panel in this example. The  
24 skeleton is basically plastic molding and consists of two  
25 frames connected by a number of bridges 54 to give sufficient  
26 support for the two frames to hold to each other and to have  
27 enough support to be a cover panel. The front of the inner  
28 frame 57 should be slightly taller than the front of the

1 outer frame 58 which gives the cover panel a sloping effect,  
2 but the back of both the inner frame 57 and the outer frame  
3 58 is even or flat. When a backing paperboard or cardboard  
4 is adhered to the back of the plastic molding, some space in  
5 the form of a tray 53 is created as shown in Figure 9 and  
6 Figure 9A. In Figure 9B and Figure 9C the tray 53 is for the  
7 display of a selected design or a display of an actual  
8 ornamental object or some kind of three-dimensional design,  
9 which will be described in detail later.

10 One of the very special features of the front cover  
11 panel is that as illustrated in Figure 9A, Figure 9B, and  
12 Figure 9C, the three edges that are farthest from the spine 1  
13 are made round and curving inward up and down which creates a  
14 groove 55. The purpose of designing such groove 55 in the  
15 front cover panel is to give the front cover panel a very  
16 unique look. As there will be designed or printed  
17 paperboards 61 adhering to the front of the front cover panel  
18 in order to complete the making of the front cover panel, the  
19 edges of the printed paperboards 61 will somehow fit into the  
20 groove 55 and give the cover panel a natural and smooth  
21 finishing look. There must be some kind of hinge that  
22 permits the spine 1 to connect the cover panel together. As  
23 shown in Figure 9C and Figure 10, the side closest to the  
24 spine 1 has no groove 55, and the printed paperboard 61 in  
25 this side is designed to be longer and will eventually meet  
26 up and seal together to become one piece that serves as a  
27 cover hinge 19 as outlined in Figure 9C. At least two holes  
28 or apertures 67 are punched in the cover hinge as illustrated

1 in Figure 10. These apertures 67 must be in accordance with  
2 the holes 11a, 11b punched in the spine 1 so that the posts  
3 21a will be able to retain the cover hinge 19 within the  
4 apertures 9, 10 provided in the spine 1.

5       There are three different structures to the front cover,  
6 which will give the front cover three different appearances  
7 when completed. One of the structures is two pieces of well  
8 die-cut and designed paperboards cardboard adhered to both  
9 sides of the skeleton of the cover panel. In this case, the  
10 paperboards or cardboard will be covering the outer frame 58,  
11 inner frame 57, and the tray 53 as well. In this manner, the  
12 edges of the paperboards or cardboard 61 are hidden within  
13 the groove 55. As mentioned above, the side closest to the  
14 spine 1 has no groove 55 in which case the paperboards 61 are  
15 designed to be longer for the creation of the cover hinge 19.  
16 The front covers produced with this method will be similar to  
17 the front covers commonly found in the market except the  
18 groove 55, which is a special feature in this invention.

19       Producing a totally different structural look of the  
20 front cover with the same piece of plastic molding M is  
21 possible with the method describe below. As described above,  
22 the plastic molding M is basically formed by two frames 57,58  
23 and connected by a number of supporting bridges 54, and the  
24 inner frame 57 is taller than the outer frame. Therefore,  
25 designers will make use of the height difference to place a  
26 piece of design in the tray space 53. In Figure 9, there are  
27 two horizontal plastic bars 56 in the top and bottom of the  
28 plastic molding M. These two plastic horizontal bars play a

1 very important role in this method of making the front cover.  
2 Figure 9A is a cross-sectional view of the plastic molding M.  
3 As shown, the horizontal bars 56 are actually in a lower  
4 position than the inner frame 57, the supporting bridges 54  
5 in the top and bottom are made differently than the other  
6 supporting bridges in the left and right side, a portion of  
7 the supporting bridges 54 are eliminated in the lower portion  
8 and create some empty space inbetween the inner frame and the  
9 supporting bridges 54 as illustrated in Figure 9A. A similar  
10 length of sponge 62 is adhered along the horizontal bars 56,  
11 and the height of the sponge 62 is taller than the horizontal  
12 bars 56 as shown in Figure 9A. A piece of cardboard 59 with  
13 designs will be slotted within the inner frame and supported  
14 by the sponge 62. In instances when consumers want to place  
15 their own favorite design all they need to do is just simply  
16 place their design on top of the original design and compress  
17 to allow the design to slot within the space between the  
18 inner frame 54 and the horizontal bars 56. In this manner,  
19 the design should be retained within the space between the  
20 inner frame 54 and the horizontal bars 56 by the natural  
21 elasticity of the sponge 62 and the inner frame 54 and the  
22 horizontal bars 56 acting as a stopper leaving no empty space  
23 for the design to move. This is best illustrated in Figure  
24 9B. Printed cardboard 61 will be adhered to the front and  
25 back of the plastic molding M as shown in Figure 9B. As in  
26 the method described above, the hinge 19 will be made by the  
27 same way.

1       Designers are allowed to make the best use of the tray  
2 space 53 created by the height difference between the two  
3 frames 57,58. An actual ornamental object or three-  
4 dimensional design according to the size of the tray space 53  
5 can be displayed within and protected by a piece of clear  
6 glass or a rigid clear plastic.

7       It is very necessary to point out why the invention for  
8 the cover panel uses two frames 54,55 with supporting bridges  
9 54 connected together instead of using a complete piece of  
10 plastic panel. There are three major reasons. The first  
11 reason, of course, is because of the different changes that  
12 can be done with such plastic molding M. The second reason  
13 is to minimize the usage of raw material such as the amount  
14 of plastic to minimize cost. The third reason relates to the  
15 weight of the photo album which could be very heavy when  
16 filled with photographs. Therefore manufacturers should make  
17 use of any opportunity to produce a lighter photo album  
18 whenever possible by using less raw material or lighter raw  
19 material. Figure 16 is the appearance of the front cover  
20 when completed.

21

## 22 PACKAGING & LABELING

23       Packaging is usually the final stage in production.  
24 There are many types of packaging for the photo album. One  
25 of the most expensive ways is by packing each photo album in  
26 a box thereby protecting each individual photo album from  
27 being scratched and damaged. In addition, all the

1 advertisement and particulars are printed on the individual  
2 boxes creating one of the best packaging methods but also one  
3 of the most expensive. One of the most economical ways of  
4 packaging is by shrink wrapping. A piece of styrofoam will  
5 be placed inside the photo album for cushioning and  
6 protection, a piece of paper printed with all the particulars  
7 and advertisements will be placed together with the photo  
8 album and shrink wrapped together. A drawback to the shrink  
9 wrapping method is that it does not give the packaging an  
10 elegant look and sometime even makes the photo album less  
11 elegant. The reason is because there will be gaps uncovered  
12 along the three sides other than the side with a solid spine,  
13 and therefore when the photo album is being shrink wrapped  
14 with heat, the photo album may be damaged or become uneven.

15       Figure 11 illustrates the method of packaging in this  
16 invention. It will be more or less the combination of the  
17 two methods described above by taking the advantages of these  
18 two methods. A piece of corrugated cardboard 75 will be used  
19 here, all the advertisements will be directly printed on this  
20 corrugated cardboard 75 or adhered to a piece of printed  
21 paper adhered to the corrugated cardboard 75. This piece of  
22 corrugated cardboard 75 will be folded into three parts which  
23 will look very much like a U shape. As there are four sides  
24 to a photo album, one side with a spine and the other three  
25 sides empty or open without support, the U-shaped corrugated  
26 cardboard will be placed to cover these three sides and  
27 making every side of the photo album with a solid support.  
28 Then the whole piece will be shrink wrapped. The advantage

1 of this method is that the photo album will be well protected  
2 and looks as elegant as packaging with an individual box, but  
3 the cost is very economical and without blocking the original  
4 designs in the cover of the photo album.

5       Figure 12 illustrates an alternate form of a page. The  
6 page 76 of Figure 12 is adapted to be folded along a central  
7 fold line 77. It has transparent plastic sheets 78 top and  
8 bottom with an opaque paper 79 therein. The paper extends  
9 beyond the free edges of the transparent plastic to provide a  
10 region 80 on both sides for writing notations. In addition,  
11 circular holes 81 are formed in the paper whereby the plastic  
12 above and below may be heat sealed together to generate four  
13 pockets on each side of each sheet for a total of eight  
14 pockets.

15       Figures 13 through 16 are directed to embodiments  
16 employing an integrally formed spine 82. Such spine has  
17 integrally molded side walls similar to the separate side  
18 walls of the prior embodiments and with arcuate supports 83  
19 bridging the opposed side walls. The arcuate supports  
20 provide greater support for the spine cover sheet 84. In  
21 such embodiment, the spine cover sheet 84 is preferably  
22 formed integrally with the front cover 85 and back cover 86.  
23 This allows the interior edges of the pages to form a convex  
24 cross section conforming to the curvature of the supports 83.  
25 As can be seen in Figures 15 through 19, this presents the  
26 appearance of an expensive bound book with a concave edge 85  
27 formed by the exterior free edges of the pages.

1 In these embodiments, the recesses 86 in the side walls  
2 are formed on the lateral faces and take a dove-tail  
3 configuration. By constructing the spine cover and front and  
4 back covers integrally, a flexible linear extent thereof  
5 front and back may be positioned within the recesses with a  
6 supplemental cylindrical rod 87 positioned within the recess  
7 to hold the entire assembly together during operation and  
8 use. In such embodiment, the page pins 88 extending through  
9 apertures in the pages functions to hold the pages in their  
10 proper orientation. In these embodiments, it is preferred  
11 that the page pin extend through an aperture in one side wall  
12 of the spine into a cylindrical recess on the opposite side  
13 thereof.

14 Minor modifications of these embodiments can be seen in  
15 reference to Figures 16, 17, 18 and 19. In such  
16 embodiments, the front cover, back cover and back spine are  
17 shown to appear essentially integral in the embodiments of  
18 Figures 16 and 17. In the Figure 18 embodiment, the top and  
19 bottom plates are formed integrally with the side walls  
20 whereas in Figure 19, the top and bottom plates are  
21 eliminated to show the full extent of the top and bottom of  
22 the sheets.

23 As to the manner of usage and operation of the present  
24 invention, the same should be apparent from the above  
25 description. Accordingly, no further discussion relating to  
26 the manner of usage and operation will be provided.

27 With respect to the above description then, it is to be  
28 realized that the optimum dimensional relationships for the

1 parts of the invention, to include variations in size,  
2 materials, shape, form, function and manner of operation,  
3 assembly and use, are deemed readily apparent and obvious to  
4 one skilled in the art, and all equivalent relationships to  
5 those illustrated in the drawings and described in the  
6 specification are intended to be encompassed by the present  
7 invention.

8       Therefore, the foregoing is considered as illustrative  
9 only of the principles of the invention. Further, since  
10 numerous modifications and changes will readily occur to  
11 those skilled in the art, it is not desired to limit the  
12 invention to the exact construction and operation shown and  
13 described, and accordingly, all suitable modifications and  
14 equivalents may be resorted to, falling within the scope of  
15 the invention.

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## CLAIMS

What is claimed as being new and desired to be protected by  
LETTERS PATENT is as follows:

- 1 1. A book system with pages for the removable receipt of  
2 photographs and like image-bearing documents for maximized  
3 convenience and aesthetic appearance with minimized cost  
4 comprising, in combination:
  - 5 a spine including four walls, an interior front wall and  
6 an exterior front wall and an interior rear wall and an  
7 exterior rear wall, all of the walls being planar in  
8 essentially parallel relationship with each other and with  
9 the interior and exterior front walls being closely spaced  
10 and with the interior and exterior rear walls being closely  
11 spaced and with an enlarged opening therebetween for the  
12 receipt of pages, the spine also including two panels, a top  
13 panel and a bottom panel, the top panel and bottom panel  
14 being in parallel relationship with each other and coupled at  
15 the top of the walls and at the bottom of the walls for the  
16 receipt of pages therebetween, the four walls and two panels  
17 being in a rectilinear configuration with an open planar face  
18 from which pages may extend and a closed arcuate face  
19 opposite therefrom, the arcuate face including three sets of  
20 curved fingers on each interior wall to define a curvature  
21 opposite from the open planar face, the interior faces of the  
22 panels being formed with a rectilinear section with  
23 indentations opening toward the arcuate face for the receipt  
24 of ends of posts therewithin and with the walls being formed  
25 with circular inboard apertures and outboard apertures for

26 the receipt of inboard spine pins and at least one outboard  
27 spine pin therethrough;  
28 a plurality of cylindrical posts having opposite ends  
29 adapted to be received in the indentations of the rectilinear  
30 sections for the receipt of pages therearound;  
31 a pair of inboard spine pins passing through the side  
32 walls to retain the posts in position within the recesses;  
33 at least one outboard spine pin passing through the side  
34 walls and through apertures in the pages;  
35 a plurality of pages of an extended length with a  
36 central fold line adapted to be positioned over the posts and  
37 to extend outwardly in a direction away from the arcuate  
38 face, the pages having apertures for the receipt of the  
39 outboard spine pins;  
40 a front cover and a back cover, the front and back  
41 covers each in a generally rectangular configuration with an  
42 inner edge adapted to be received between an interior wall  
43 and an exterior wall at the open face; and  
44 a flexible sheet in a semi-cylindrical configuration  
45 having free parallel edges positioned between the interior  
46 and exterior walls at the closed face and overlying the  
47 curved fingers.

1 2. A book comprising:

2 a spine formed of a plurality of walls including a front  
3 wall and a rear wall, each with an axial recess therewithin,  
4 the spine also having a plurality of panels including a top  
5 panel and a bottom panel with the top panel and bottom panel

1 being in parallel relationship with each other adjacent to  
2 the top of the walls and adjacent to the bottom of the walls,  
3 the walls and panels being in a rectilinear configuration  
4 with an open planar face from which pages may extend and a  
5 closed face opposite therefrom, and with the walls being  
6 formed with circular apertures for the receipt of pins  
7 therethrough;  
8 a plurality of pins passing through at least some of the  
9 side walls to retain the pages in position; and  
10 a plurality of pages positioned within the spine and  
11 extending outwardly in a direction away from the closed face.

1 3. The book as set forth in Claim 2 and further  
2 including a front cover and a back cover, the front and back  
3 covers each in a generally rectangular configuration with an  
4 inner edge adapted to be received within the recesses.

1 4. The book as set forth in Claim 2 wherein the walls  
2 include an interior front wall and an exterior front wall and  
3 an interior rear wall and an exterior rear wall, with the  
4 interior and exterior front walls being closely spaced and  
5 with the interior and exterior rear walls being closely  
6 spaced and with an enlarged opening therebetween with the  
7 recesses being the spaces between the interior and exterior  
8 walls.

1 5. The book as set forth in Claim 2 wherein the  
2 recesses are in a dove-tail configuration on the exterior

3 faces of the walls with cylindrical rods positionable  
4 therewithin.

1        6.    The book as set forth in Claim 2 and further  
2 including a flexible sheet having free parallel edges  
3 positioned between the interior and exterior walls overlying  
4 the closed face.

1        7.    The book as set forth in Claim 2 wherein the  
2 interior faces of the panels are formed having a rectilinear  
3 section with indentations opening toward the closed face for  
4 the receipt of ends of the posts therewithin; and a plurality  
5 of pins passing through at least some of the side walls to  
6 retain the pages in position.

1        8.    The book as set forth in Claim 2 and further  
2 including a plurality of apertures extending through the  
3 pages adjacent to the edge received by the spine with the  
4 pins extending therethrough.

1        9.    The book as set forth in Claim 2 wherein the front  
2 cover sheet includes a cardboard backing internally and an  
3 injection molded frame internally with a central rectangular  
4 receiving area in the center and outwardly extending ribs  
5 terminating at free ends adjacent to the periphery of the  
6 cardboard with curved tips thereat and with a paper covering  
7 thereover.

1        10. The book as set forth in Claim 2 wherein the pages  
2 are fabricated of a central paper and a transparent plastic  
3 covering with slits in the covering for the introduction of  
4 and removal of photographs and like indicia-bearing sheets.

1        11. The book as set forth in Claim 2 wherein the sheets  
2 include circular apertures through the paper for heat sealing  
3 the plastic above and below to create separate pockets for  
4 discrete photographs and like image-bearing objects.

3        12. The book as set forth in Claim 2 and further  
4 including paper over the plastic at the external end thereof  
5 for the printing of indicia thereon by a user.

1        13. The book as set forth in Claim 2 wherein the pages  
2 have their interior edges, adjacent to the spine, forming a  
3 convex cross section with their exterior edges, remote from  
4 the spine, forming a concave cross section.

1        14. The book as set forth in Claim 2 and further  
2 including an integrally formed front cover and back cover and  
3 spine.

1        15. The book as set forth in Claim 2 and further  
2 including for use in a scrapbook, a page for removably  
3 receiving photographs and the like comprising a sheet of  
4 opaque material with plastic transparent sheets above and  
5 below, the opaque material having circular apertures in a

1 linear array with the plastic being heat sealed through the  
2 apertures to form a plurality of pockets between the opaque  
3 material and transparent sheets and with a linear opening  
4 between the transparent sheets and opaque material adjacent  
5 the remote edges of the opaque material and plastic sheets  
6 for introducing and removing photographs and the like to and  
7 from the pockets.

1/8

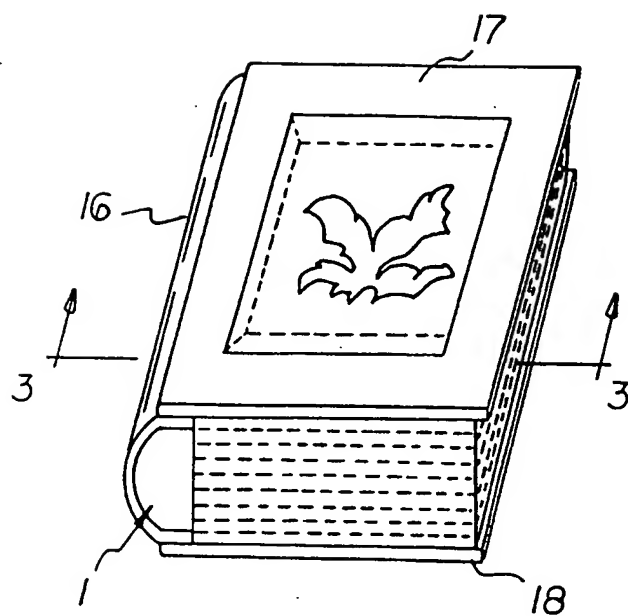


FIG 1

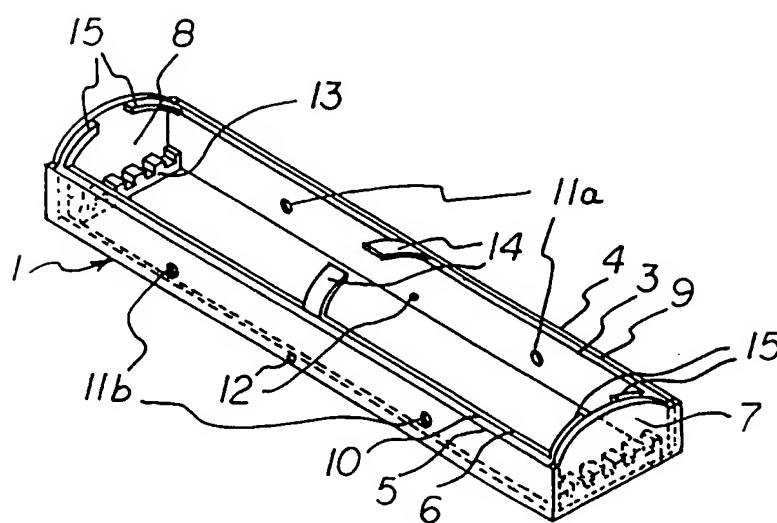


FIG 2

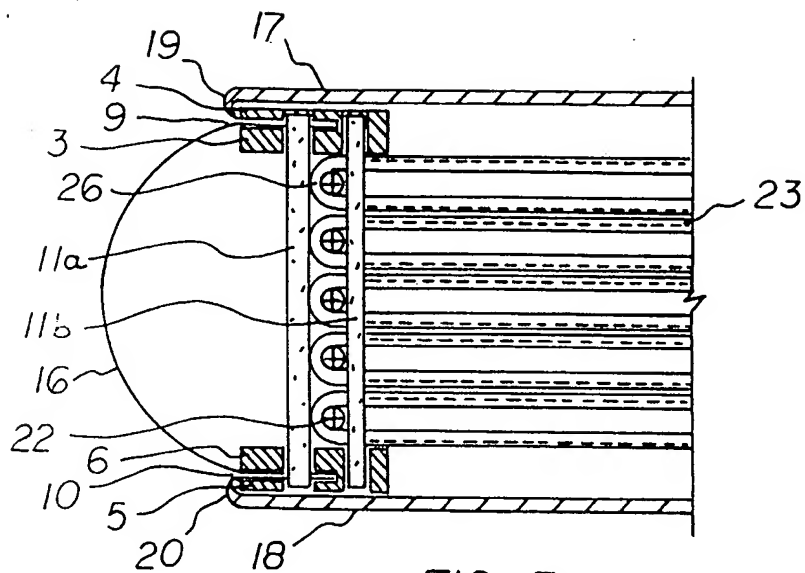


FIG 3

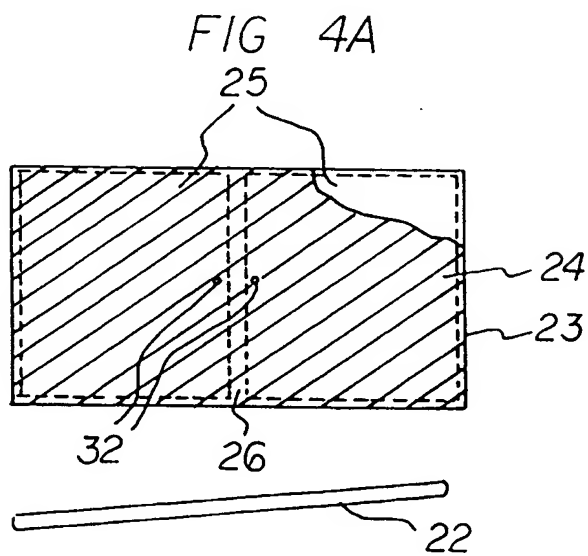
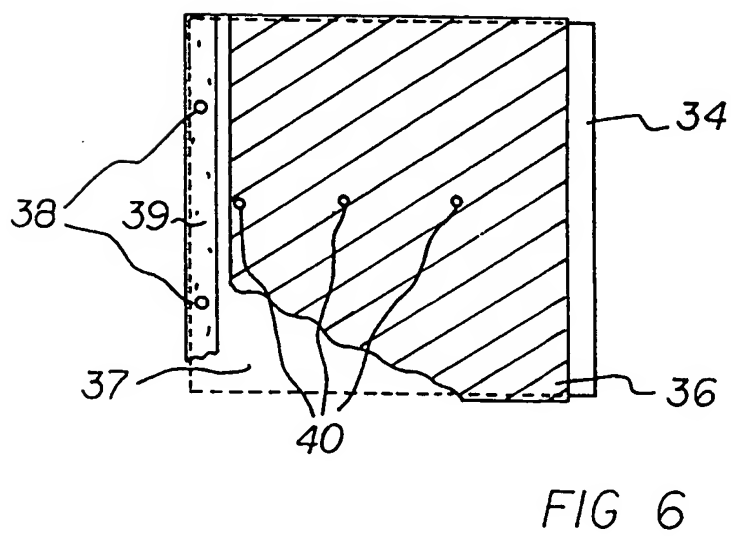
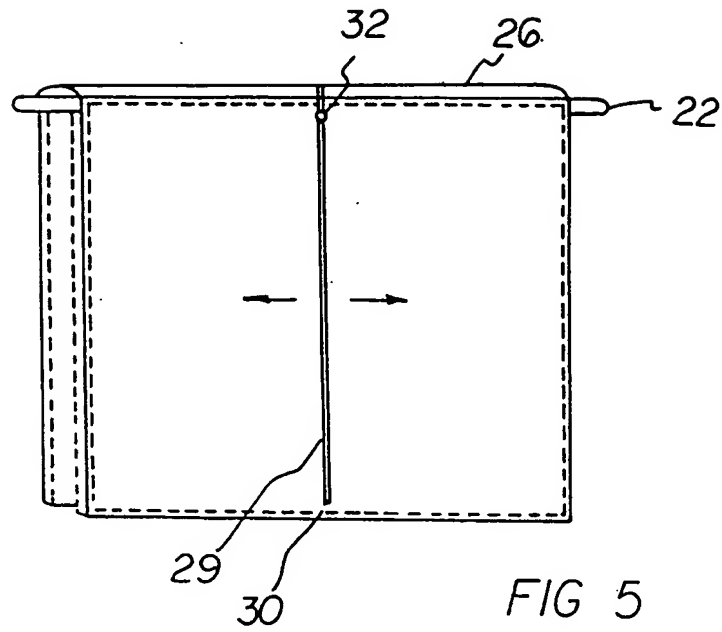
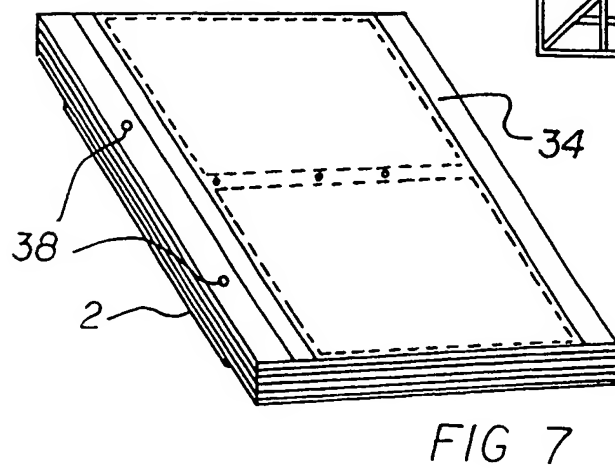
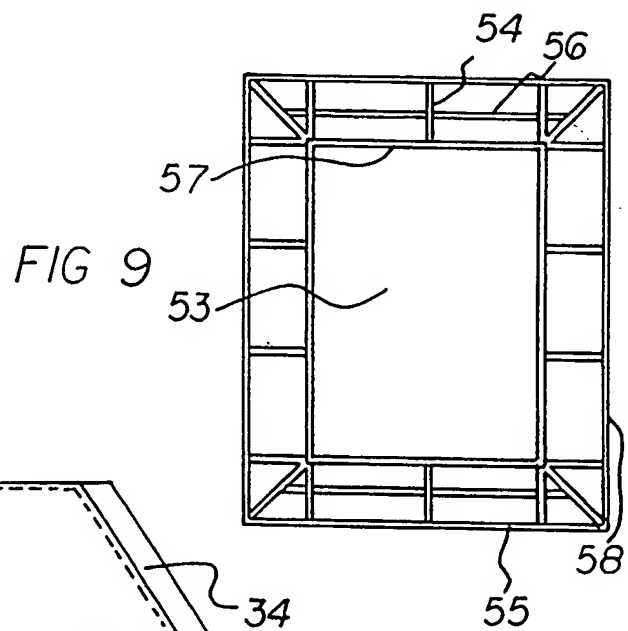
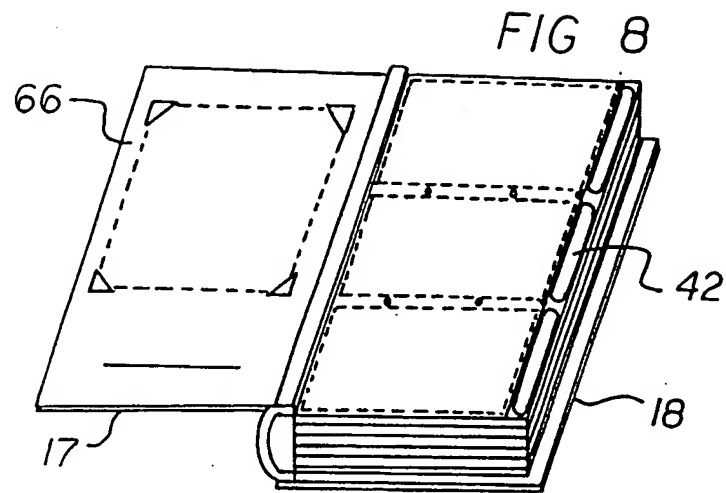


FIG 4B





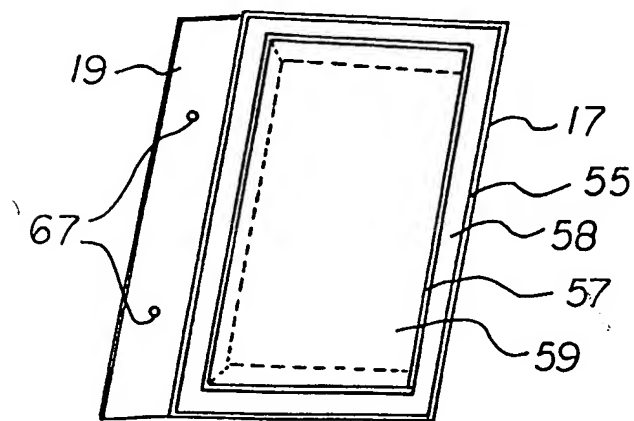
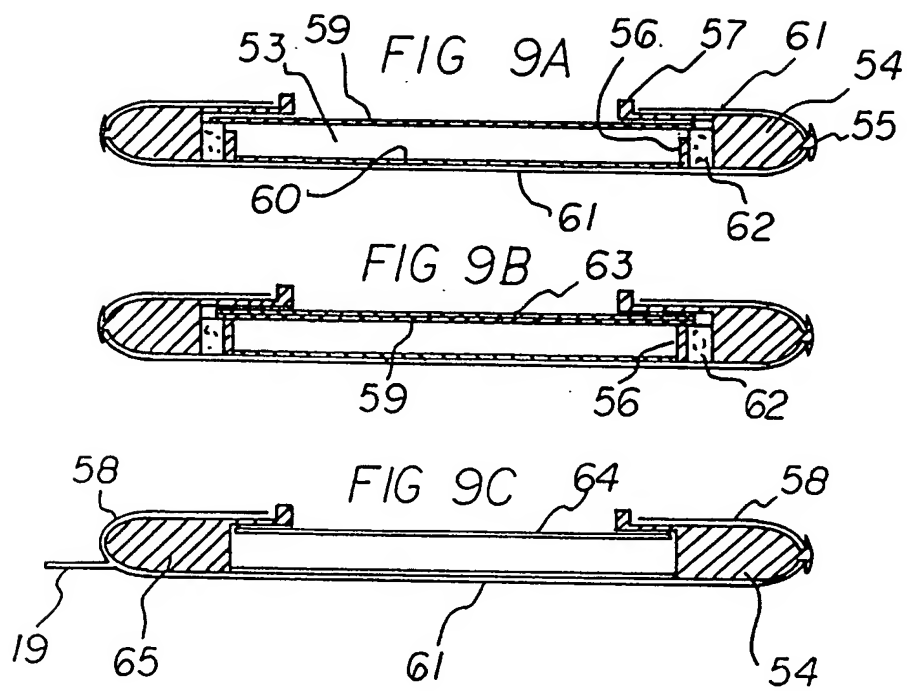


FIG 10

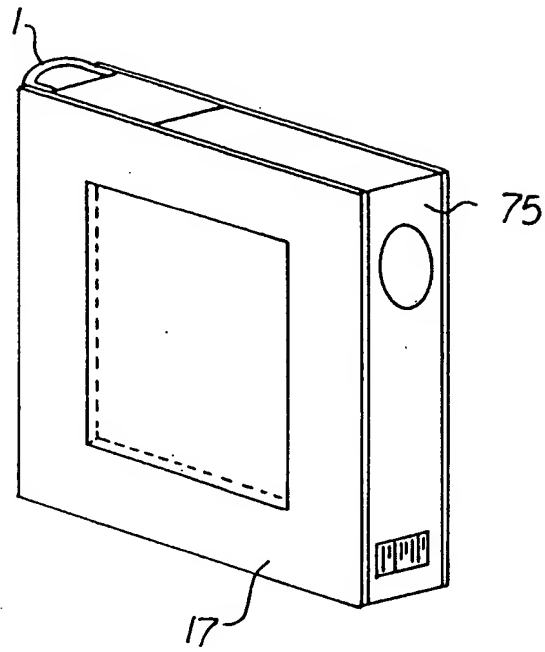


FIG 11

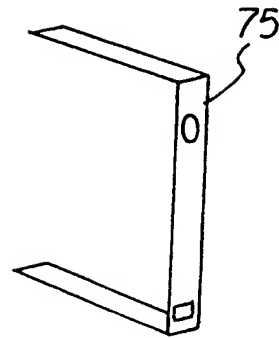


FIG 11A

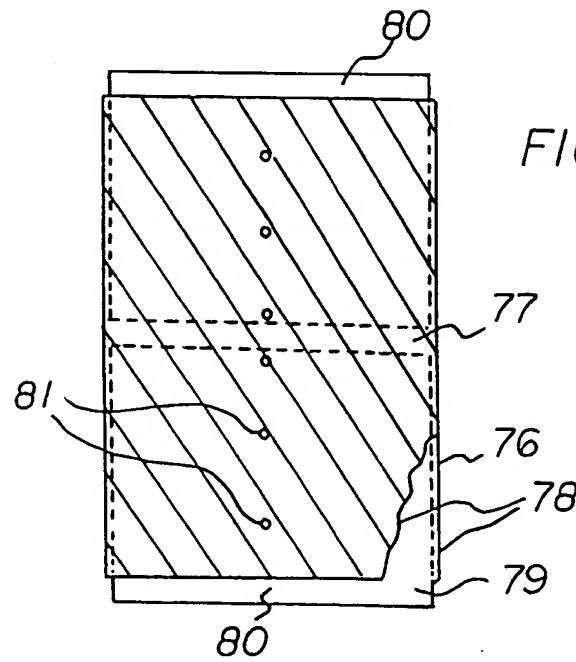


FIG 12

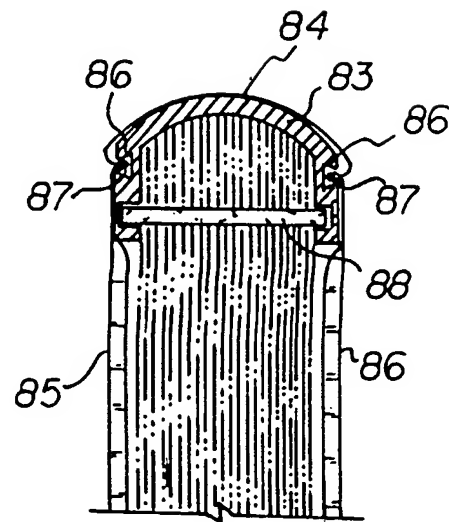
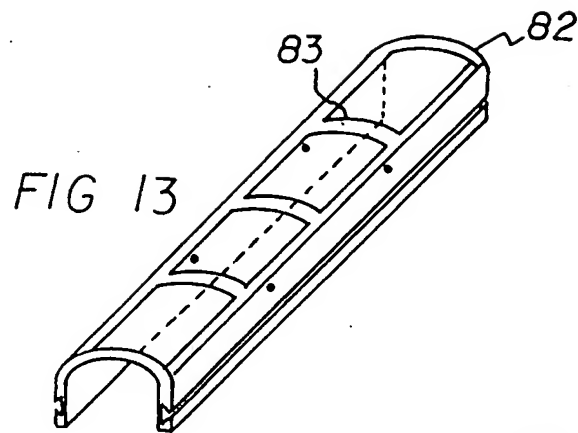


FIG 14

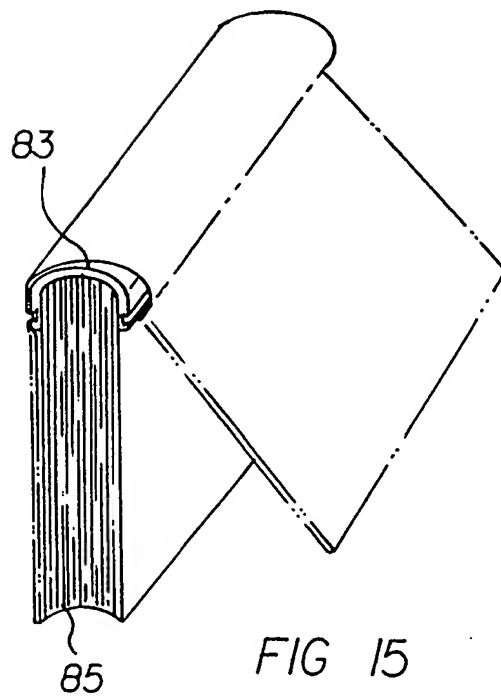


FIG 15

FIG 16

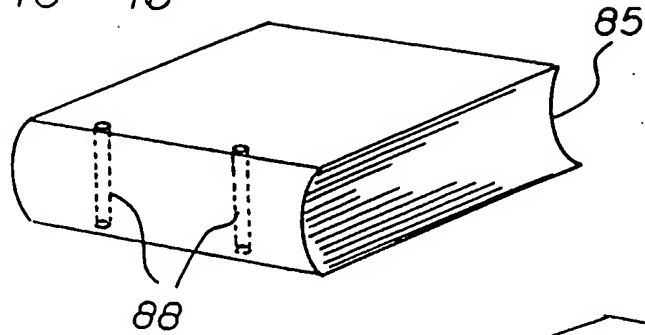


FIG 18

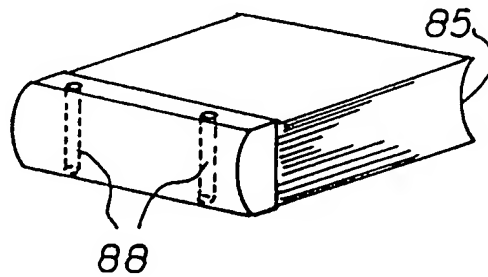


FIG 17

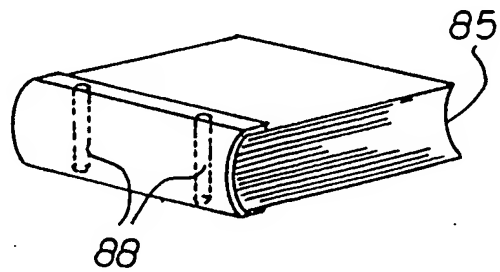
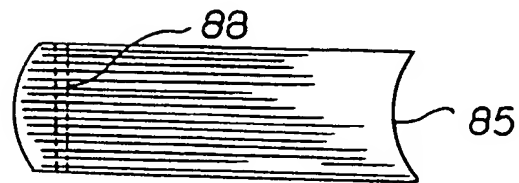


FIG 19

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IB 00/00026

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>												
Int Cl <sup>7</sup> : B42D 1/06, 1/08, B42F 5/00												
According to International Patent Classification (IPC) or to both national classification and IPC												
<b>B. FIELDS SEARCHED</b>												
Minimum documentation searched (classification system followed by classification symbols)												
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched												
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)												
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>												
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.										
A	US 4056326 A (CRAWFORD) 1 November 1977 Whole document	1 - 15										
A	US 4113394 A (GIULIE) 12 September 1978 Whole document	1 - 15										
A	US 4426007 A (BELECKIS ET AL) 17 January 1984 Whole document	1 - 15										
A	US 4561623 A (SHEPHERD ET AL.) 31 December 1985 Whole document	1 - 15										
<input type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex												
<p>* Special categories of cited documents:</p> <table border="0"> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"E" earlier application or patent but published on or after the international filing date</td> <td>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td>"&amp;" document member of the same patent family</td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	"P" document published prior to the international filing date but later than the priority date claimed	
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Date of the actual completion of the international search 8 February 2000		Date of mailing of the international search report 16 FEB 2000										
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929		Authorized officer  M.J. O'ROURKE Telephone No.: (02) 6283 2017										

# INTERNATIONAL SEARCH REPORT

## Information on patent family members

International application No.  
PCT/IB 00/00026

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member	
US	4056326	NIL	
US	4113394	NIL	
US	4426007	NIL	
US	4561623	CA	1214971
END OF ANNEX			